

APPENDIX A

CATCTCTTGT	TCTCTCCGCC	CATCTCTGCT	CTCTTTTATT	TTCCCGAGAAA	GT	TTTTTTTTTT	60
TTTTTTCCGA	ATTCCGTTAA	TCTCATGGG	GT	TTCCATGAGA	ATAGCAATGG	CGACGGCTTT	120
CGCTCCCAC	AAGCTCACTG	CCACGGTTCC	TCTGCATGGA	TCCCAGAGA	ATCGTCTCTT		180
GCTCCCAGATC	CGATTGGCTC	CTCCTTCTTC	TTTCCTCGGA	TCCACCCGTT	CCCTCTCCCT		240
TCGCAGACTC	AATCACTCCA	ACGCCACCCG	TCGATCTCCC	GTGCTCTCTG	TCCAGGAAGT		300
TGTCAAGGAG	AAGCAATCCA	CCATAATAAC	CAGCCTGTTG	ATAACCAAAG	AGGAAGGATT		360
GGAGTTGTAT	GAAGATATGA	TACTAGGTAG	ATCTTTCGAA	GACATGTGTG	CTCAAAATGTA		420
TTACCGAGGC	AAGATGTTTG	GT	TTTGTTCGA	CTTGATACAAT	GGCCPAGAGG	CTGTTTCTAC	480
TGGCTTTATC	AAGCTCCTTA	CCAAGTCTGA	CTCTGTCGTT	AGTACCTACC	GTGACCATGT		540
CCATGCCCTC	AGCAAAAGGTG	TCTCTGCTCG	TGCTGTTATG	AGCGAGCTCT	TGCGCAAGGT		600
TACTGGATGCC	TGCAGAGGCC	AAGGTGGATC	CATGCACATG	TTCTCCAAAG	AACACAAACAT		660
GCTTGGTGGC	TTTGCCTTTA	TTGGTGAAGG	CATTCTGTGTC	GCCACTGGTG	CTGCCTTTAG		720
CTCCAAAGTAC	AGGAGGGAAAG	TCTTGAAACA	GGATGTGAT	GATGTCACTG	TGCGCTTTTT		780
CGGACATGGG	ACTTGTAAACA	ACGGACAGTT	CTTCGAGTGT	CTGACACATGG	CTGCTCTCTA		840
TAAACTGCCT	ATTAATCTTTG	TTGTCGAGAA	TAACCTGTGG	GCCATTGGGA	TGTCTCACTT		900
GAGAGCCACT	TCTGACCCCCG	AGATTTGGAA	GAAGAGGTCT	GCATTGGGA	TGCGCTGGTGT		960
TCATGTTGAC	GGTATGGATG	TCTTGAAAGGT	CAGGGAAAGTC	GCTAAAGAAG	CTGTCACCTAG		1020
AGCTAGAAGA	GGAGAAGGTC	CAACCTTGGT	TGATATGTGAG	ACTTATAGAT	TCAGAGGACA		1080
CTCCCTGGCT	GATCCCGATG	AGCTCCGTGA	TGCTGCTGAG	AAAGCCAAAT	ACGCCGGCTAG		1140
AGACCCAAATC	GCAGCATTGA	AGAAGTATTT	GATAGAGAAC	AAGCTTGCIA	AGGAAGGAGA		1200
GCTAAAGTCA	ATAGAGAAAA	AGATAGACGA	GTGCGTGGAG	GAAGCGGTTG	AGTTTCCAGA		1260
CGCTAGTCGA	CAGCCCGGTC	GCAGTCAGTT	GCTAGAGAAT	GTGTTTCTG	ATCCAAAGGG		1320
ATTGGAAATT	GGACCTGATG	GACGGTACAG	ATGTGAGGAC	CCCAAGTTTA	CCGAAGGGCAC		1380
AGCTCAAGTC	TGAGAAGACA	AGTTTAACCA	TAAGCTGTC	ACTGCTCTT	CGATGTTCT		1440
ATATACTTAA	TTAAGTTAAA	TGCTACAGAG	AATCAGTTTG	AATCATTTGC	ACTTTTTGCT		1500
TTAAGTTAAA	AAAAAAGAAA	AAAAAAGAAA					1530

APPENDIX B

<u>MATAFAPTKL TATVPLHGSH ENRLLLPIRL APPSSFLGST RSLSLRRLNH SNATRRSPVV</u>	60
<u>SVQEVVKEKQ STNNTSLLIT KEEGLELYED MILGRSFEDM CAQMYYRGKM FGFVHLYNGQ</u>	120
EAVSTGFIKL LTKSDSVVST YRDHVHALSK GVSARAVMSE LFGKVTGCCR GQGGSMHMFS	180
KEHNMMLGGFA FIGEGIPVAT GAAFSSKYRR EVLKQDCDDV TVAFFGDGTC NNGQFFECLN	240
MAALYKLPII FVVENNLWAI GMSHLRATSD PEIWKKGPAF GMPGVHVDGM DVLKVREVAK	300
EAVTRARRGE GPTLVECETY RFRGHSADP DELRDAAEKA KYAARDPIAA LKKYLIENKL	360
AKEAELKSIE KKIDELVEEA VEFADASPQP GRSQLLENVF ADPKGFGIGP DGRYRCEDPK	420
TEGTAQV	428

APPENDIX C

GAAAAAAATGT	CTTCGATAAT	CCATGGAGCT	GGAGCTGCTA	CGACGACGTT	ATCGACGTTT	60
AATTCCGTCG	ATTCCAAGAA	ACTCTTCGTT	GCTCCTTCTC	GCACAAATCT	TTCAGTGAGG	120
AGCCAGAGAT	ATATAGTGGC	TGGATCTGAT	GCGAGTAAGA	AGAGCTTGG	TTCTGGACTT	180
AGAGTTCGTC	ACTCTCAGAA	ATTGATTCCA	AATGCTGTTG	CGACGAAGGA	GGCGGATAACG	240
TCTGCGAGCA	CTGGACATGA	ACTATTGCTT	TTCGAGGCTC	TTCAGGAAGG	TCTGGAAGAA	300
GAGATGGACA	GAGATCCACA	TGTATGTGTT	ATGGGTGAAG	ATGTTGGCCA	TTACGGAGGT	360
TCCTACAAGG	TAACCA A AGG	CCTTGCTGAT	AAATTGGTG	ACCTCAGGGT	TCTCGACACT	420
CCTATTGTC	AAAATGCATT	CACCGGTATG	GGCATTGGAG	CTGCCATGAC	TGGTCTAAGA	480
CCCGTTATTG	AAGGTATGAA	CATGGGTTTC	CTCCTCCTCG	CCTTCACCA	AATCTCCAAC	540
AACTGTGGAA	TGCTTCACTA	CACATCCGGT	GGTCAGTTA	CGATCCCGGT	TGTCATCCGT	600
GGACCTGGTG	GAGTGGGACG	CCAGCTTGGT	GCTGAGCATT	CACAGAGGTT	AGAATCTTAC	660
TTTCAGTCCA	TCCCTGGGAT	CCAGATGGTT	GCTTGCTCAA	CTCCTTACAA	CGCCAAAGGG	720
TTGATGAAAG	CCGCAATAAG	AAGGGAGAAC	CCTGTGATTC	TGTTCGAAC	CGTGTGCTT	780
TACAATCTCA	AGGAGAAAAT	CCCGGATGAA	GATTACATCT	GTAACCTTGA	AGAAGCTGAG	840
ATGGTCAGAC	CTGGCGAGCA	CATTACCATC	CTCACTTACT	CGCGAATGAG	GTACCATGTG	900
ATGCAGGCAG	CAAAAACACT	GGTGAACAAA	GGGTATGACC	CCGAGGTTAT	CGACATCAGG	960
TCACTGAAAC	CGTTGACCT	TCACACAAATT	GGAAACTCGG	TGAAGAAAAC	ACATCGGGTT	1020
TTGATCGTGG	AGGAGTGTAT	GAGAACCGGT	GGGATTGGGG	CAAGTCTTAC	AGCTGCCATC	1080
AACGAGAACT	TTCATGACTA	CTTAGATGCT	CCGGTGTATGT	GTTTATCTTC	TCAAGACGTT	1140
CCTACACCTT	ACGCTGGTAC	ACTGGAGGAG	TGGACCGTGG	TTCAACCGGC	TCAGATCGTG	1200
ACCGCTGTG	AGCAGCTTG	CCAGTAAATT	CATATTATC	CGATGAACCA	TTATTATCA	1260
TTTACCTCTC	CATTTCTTT	CTCTGTAGCT	TAGTTCTTAA	AGAATTGTC	TAAGATGGTT	1320
TTGTTTTGTT	AAAGTTGTC	TCCTTGTGTT	TGTCTTTAA	TATGGTTGT	AACTCAGAAT	1380
TTTGTGTTGT	TAATTTATC	TCCCACTTTC	TTTTAAAAAA	AAAAA AAA AA	AAAAA AAA AA	1440
						1441

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APPENDIX D

<u>MSSIIHGAGA ATTTLSTFNS VDSKKLFVAP SRTNLSVRSQ RYIVAGSDAS KKSFGSGLRV</u>	60
<u>RHSQKLIPNA VATKEADTSA STGHELLLF E ALQEGL EEM DRDPHVCVMG EDVGHYGGSY</u>	120
KVTKGLADKF GDLRVLDTPI CENAFTGMGI GAAMTGLRPV IEGMNMGFL LAFNQISNNC	180
GMLHYTSGGQ FTIPVIRGP GGVGRQLGAE HSQRLESYFQ SIPGIQMVA C STPYNAKGLM	240
KAAIRSENPV ILFEHVLLYN LKEKIPDEDY ICNLEEAEMV RPGEHITILT YSRMRYHVMQ	300
AAKTLVNGY DPEVIDIRSL KPFDLHTIGN SVKKTHRVL VEECMRTGGI GASLAAINE	360
NFHDLAPV MCLSSQDVPT PYAGTLEEW VVQPAQIVTA VEQLCQ	406

APPENDIX E

GGCCGATCTG	50
GTTGCTAGA	
TCCAAAACCC	
TTGTTCTAG	
CTTGAGACAT	
<u>AATCTAAATT</u>	100
<u>TGTGACAAT</u>	
<u>TCTCATAAAA</u>	
<u>CGTCATTACT</u>	
<u>CTCATCGTCC</u>	
<u>CATCTTCTAT</u>	150
<u>ACAACCTCTC</u>	
<u>AGTTATCTTC</u>	
<u>AACCCCGTAT</u>	
<u>TTGAGTCCCT</u>	
<u>TCGGTACCCCT</u>	200
<u>CCGTACATGAG</u>	
<u>TCTACGGCCG</u>	
<u>TGGACACACA</u>	
<u>GGCTGATCAT</u>	
<u>TTGGTTCAGC</u>	250
<u>AGATTGATGA</u>	
<u>AGTCGATGCC</u>	
<u>CAGGAACCTGG</u>	
<u>ATTTCCCAGG</u>	
<u>ACGGAAAGTC</u>	300
<u>GGTTACACAT</u>	
<u>CCGACATGAA</u>	
<u>ATTACATACCG</u>	
<u>GAATCATCTT</u>	
<u>CAAGGAGGAT</u>	350
<u>TCCATGTTAC</u>	
<u>CGGGTTCTTG</u>	
<u>ACGAAGACCG</u>	
<u>ACGAATCATC</u>	
<u>CCCGATAACCG</u>	400
<u>ATTTTATTCC</u>	
<u>GGTGACTGAG</u>	
<u>AAACTCGCTG</u>	
<u>TTAGAATGTA</u>	
<u>CGAACAAATG</u>	450
<u>CCGACCGCTAC</u>	
<u>AAGTAAATGGA</u>	
<u>TCACATCTTC</u>	
<u>TACCAACCTTC</u>	
<u>AACGTCAACG</u>	500
<u>AACAATATCT</u>	
<u>TTTTTATCTTA</u>	
<u>CTTCCGTCGG</u>	
<u>ACGAGAAAGCC</u>	
<u>ATTAACATCG</u>	550
<u>CTTCACCCAGC</u>	
<u>TCCTCTCAGT</u>	
<u>CCGACCCACG</u>	
<u>TCGTTTTACC</u>	
<u>TCAGTACCGA</u>	600
<u>GAACCTGGAG</u>	
<u>TTCTTTTGTG</u>	
<u>GGCTGGCTTC</u>	
<u>ACGTTGGAGG</u>	
<u>AGTTGCTAA</u>	650
<u>TCAGTGTTTT</u>	
<u>GGGAACAAAG</u>	
<u>CTGATTATGG</u>	
<u>CAAAGCCAGA</u>	
<u>CAAATGCCAA</u>	700
<u>TTCATTACGG</u>	
<u>TTCCAATCGT</u>	
<u>CTTAATTACT</u>	
<u>TCACTATCTC</u>	
<u>GTCTCCAATT</u>	750
<u>GCCACGCAAC</u>	
<u>TTCCCTCAAGC</u>	
<u>TGCTGGAGIT</u>	
<u>GGTTATTCTT</u>	
<u>TGAAAATGGA</u>	800
<u>CAAGAAGAAT</u>	
<u>GCTGTACTG</u>	
<u>TTACATTCTAT</u>	
<u>CGGAGATGCT</u>	
<u>GGCACAAAGCG</u>	850
<u>ACGGAGATTT</u>	
<u>TCACGCCGGA</u>	
<u>TTGAATTCTG</u>	
<u>CGGCCGTAAT</u>	
<u>CGAACCTCCG</u>	900
<u>GTGTGTTTA</u>	
<u>TATGICCGAA</u>	
<u>CAACGGTTGG</u>	
<u>GGCATTAGTA</u>	
<u>CTCATATCTC</u>	950
<u>AGAACAGTTT</u>	
<u>ACAAGTCATG</u>	
<u>GAATAGTTGT</u>	
<u>CAAAGGTCAA</u>	
<u>GCTTACCGTA</u>	1000
<u>TCCCGAAGCA</u>	
<u>TCCCGTGTG</u>	
<u>GACGGTACCG</u>	
<u>ATGCACTTGC</u>	
<u>GGTTTATAGT</u>	1050
<u>GCTGTACGCT</u>	
<u>CAGCTCGAGA</u>	
<u>AATGGCTGTA</u>	
<u>ACAGAACAAA</u>	
<u>CACCTGTTCT</u>	1100
<u>CATTGACATG</u>	
<u>ATGACATATA</u>	
<u>GAATGACACA</u>	
<u>TCATTCTACA</u>	
<u>TCAGATGATT</u>	1150
<u>CAACTAAGTA</u>	
<u>CAGGGCGCCG</u>	
<u>GATGAAATCC</u>	
<u>AGTACTGCAA</u>	
<u>AATGTGGAGA</u>	1200
<u>AACCTGTGCA</u>	
<u>ATAGATTTCG</u>	
<u>CAAATCCGTC</u>	
<u>CAACATAACG</u>	
<u>CATGGTGGAG</u>	1250
<u>TGAGGAACAT</u>	
<u>GAATCCAAGC</u>	
<u>TAAGATCTAA</u>	
<u>CGCAACAAAAA</u>	
<u>CAGCTCTGC</u>	1300
<u>AAGCGATTCA</u>	
<u>GGCTGGCGAG</u>	
<u>AACTGGGAGA</u>	
<u>AACAAACCAT</u>	
<u>GACAGAGTTG</u>	1350
<u>TTAACCGATG</u>	
<u>TATATGATGT</u>	
<u>TAAACCGAAG</u>	
<u>AACTCTAGAAG</u>	
<u>AGCAAGAACT</u>	1400
<u>TGGTTGAAG</u>	
<u>GAATTAGTAA</u>	
<u>ACAAACAAACC</u>	
<u>TCAACATTAT</u>	
<u>CCTCCTGGCT</u>	1450
<u>TTCATGTTTG</u>	
<u>AATCTAGAGG</u>	
<u>AACTGTGTGG</u>	
<u>TTAAAATACC</u>	
<u>TCGGGGACCG</u>	1500
<u>CGAATTCCGAT</u>	
<u>ATCAAGCTTC</u>	
<u>TCATTGCAAGA</u>	
<u>CTATTCTATA</u>	
<u>TGTCCACGTA</u>	1550
<u>TCGAATAGTA</u>	
<u>ATCAAGTATC</u>	
<u>AATGTAGAGA</u>	
<u>CCACCATTTG</u>	
<u>GAGCATCAAA</u>	1587
<u>AAAAAAAAAA</u>	
<u>AAAAAAAAAA</u>	
<u>AAAAAAA</u>	

APPENDIX F

AIWFARSKTL VSSLRHNLNL STILIKRDOYS HRPIFYTTSQ LSSTAYLSPF 50
GSLRHESTAV ETOADHLVQQ IDEVDAQELD FPGGKVGYTS EMKFIPESSS 100
RRIPCYRVLD EDGRIIPSD FIPVSEKLA VMYEOMATLG VMCHIFYEAQ 150
RQGRISFYLT SVGEEAINIA SAAALSPDDV VLPCYREPGV LLWRGFTLEE 200
TPP binding site
RANQCFGNKA DYGKGRQMPI HGSNRLNYF TISSPIATQL PQAAGVGYSL 250
BCOADC E18 binding site
KMDKKNACTV TFIGOGGTSE GDFHAGLNFA AVMEAPVVFI CRNNGWAIST 300
HISEQFRSDG IVVKGQAYG! PKHPVWDGTD ALAVYSAVRS AREMAVTEQR 350
EVLIEMMTYR VGHHSTSDD TKYRAADEIQ YWKMSRNPVN RFRKWWEDNG 400
WWSEEDESKL RSNARKOLLO AIQAAEKWEK QPLTELFNDV YDVKPKNLEE 450
QELGLKELVK KQPQDYPFGF HV
472

APPENDIX G

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
TTCTTCACCC	ACCAAAAGTA	GCAAACCTTT	GCCACCTAAA	AATCTTACCA	50
GTTGGGTGAA	AGTTGCCAAA	ATAGAGCTTG	CTTTTGTGCG	AATCCTATAT	100
TTTTCAGATT	GATTGTTGGT	GGGTTTGTGT	AAATGGCGGC	TCTTTTAGCC	150
AGATCCTGCC	GGAAACTGAG	TTTTCCGAGC	TIGACTCACG	GAGCTAGGAG	200
GGTATCGACG	GAAACTGGAA	AACCATTGAA	TCTATACTCT	GCTATTAAATC	250
AAGCGCTTCA	CATCGCTTTC	GACACCGATC	CTCGGTCTTA	TGICCTTGGG	300
CAAGACGTTG	GTCTTGGTGG	AGTCTTTCGC	TGTACAACIG	GTTTAGCTGA	350
ACCGATTGGG	AAAAACCGTG	TCTTCAATAC	TCCTCTTTGT	GAGCAGGGCA	400
TGTTGGGATT	TGGCATTGGT	CTAGCAGCAA	TGGGTAATCG	AGCAATTGTA	450
GAGATTCACT	TTGCACATTA	TATATATCCT	GCTTTTGATC	AGATTGTTAA	500
TGAAGCTGCA	AAGITCAGAT	ACCGAAGTGG	TAACCAATT	AACTGTGGAG	550
CACTTACGAT	AAGAGGCACCA	TATGGAGCAG	TTGGTICATGG	TGGACATTAC	600
CATTACAAT	CCCCTGAAAGC	TTTCTTTGC	CATGTCCCTG	GTATTAAGGT	650
TGTTATCCCT	CGGAGTCCAC	GAGAAGCAA	GGGACTGTTG	TTGTCATGTA	700
TCCGTGATCC	AAATCCCCGT	GTTTCTTCTG	AACCAAAGTG	GCTGTATCGT	750
CAAGCAGTAG	AAGAAGTCCC	TGAGCATGAC	TATATGATAC	CTTTATCAGA	800
AGCAGAGGT	ATAAGAGAAG	GCAATGACAT	TACACTGGT	CGATGGGGAG	850
CTCAGCTTAC	CGTTATGGAA	CAAGCTTGT	TGGACGGGGA	AAAGGAAGGA	900
ATATCATGTG	AACTGATAGA	TCTCAAGACA	CTGCTTCCCT	GGCACAAAGA	950
AACCGTTGAG	GCTTCAGTTA	AAAAGACTGG	CAGACTTCTT	ATAAGCCATG	1000
AAGCTCCTGT	AACAGGAGGT	TTTGGAGCAG	AGATCTCTGC	AACAATTCTG	1050
GAACGTTGCT	TTTGAAGTT	AGAAGCTCCA	GTAAGCAGAG	TTTGTGGTCT	1100
GGATACTCCA	TTTCCCTCTG	TGTTTGAACC	ATTCTACATG	CCCACCAAGA	1150
ACAAGATATT	GGATGCAATC	AAATCGACTG	TGAATTACTA	GCCGTACTAT	1200
CTGTAGTTA	CTGTTACAC	TAGGACTAAT	GTAATGGCAT	GTCTTGTGA	1250
TCAATTGCGIC	TAATGTAACA	CTACCGATTA	ACTTTAATGA	ATTICAAGAT	1300
AACGAAAAAA	AAAAAAA				1319

APPENDIX H

10	20	30	40	50
<u>1234567890</u>	<u>1234567890</u>	<u>1234567890</u>	<u>1234567890</u>	<u>1234567890</u>
MAALLGRSCR	KLSFPSLTHG	ARRVSTETGK	PLNLYSAINQ	ALHIALDTDP
RSYVFGEDVG	FGGVFRCTTG	LAERFGKNRV	FNTPLCEQGI	VGFGIGLAAM
GNRAIVEIQF	ADYTYPAFDQ	IVNEAAKFRY	RSGNQFNCGG	LTIRAPYGAV
GHGGHYHSQS	PEAFFCHVPG	IKVVIPRSPR	EAKGLLISCI	RDPNPVVFFE
PKWLYRQAVE	EVPEHDYMP	LSEAEVIREG	NDITLVGWGA	QLTVMEQACL
DAEKEGISCE	LIDLKTLLPW	DKETVEASVK	KTGRLLISHE	APVTGGFGAE
ISATILERCF	LKLEAPVSRV	CGLDTPFPLV	FEPFYMPKRN	KILDAIKSTV
NY				352